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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/990,741	11/21/2001	Farhad Boloorch	DP-305668	3330

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EXAMINER

LUM, LEE S

ART UNIT

PAPER NUMBER

3611

DATE MAILED: 11/08/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/990,741

Applicant(s)

BOLOORCHI ET AL

Examiner

Ms. Lee S. Lum

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 November 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-18 and 21-27 is/are rejected.
- 7) ☒ Claim(s) 19 and 20 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

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DETAILED ACTION

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 24 and 25 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The "assist controller" in Claim 24 is unclear, and the function "variable assist" in Claim 25, lacks sufficient structure, respectively. Neither element and function is described in the spec.

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-14, 21, 23-25 and 27 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The Claims are replete with indefiniteness due to elements/functions lacking sufficient structure. Some examples are:

In Claims 1 and 6 - "low-pass portion",

In Claim 6 - "high-pass gain", "low-pass gain", "error signal",

In Claim 24, "assist controller",

In Claim 25 - "variable assist".

All Claims should be reviewed, and amended, with respect to these recitations.

Additionally:

In Claim 14, "dynamic stability" lacks antecedent basis.

In Claim 23, "a summing function for receiving the input of the low-pass filter and the output of the low-pass filter" is unclear as regards to both the "input" and the "output" of the filter.

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3A. **Claims 1, 4-13, 24 and 25** are rejected under 35 U.S.C. 103(a) as being unpatentable over Kuzuya et al 5859774 in view of Shimizu et al 6148948.

As best understood, re **Claim 1**, Kuzuya discloses a method of controlling a feel-back torque of a motor, the steps comprising

Receiving a signal indicative of a difference between a desired motor position, and an actual motor position (col 7, lines 10-12), and,

Applying a gain (col 7, lines 18-19).

The patent does not disclose filtering the signal, while Shimizu shows bandpass filter 22. It would have been obvious to one with ordinary skill in the art at the time the invention was made to include a bandpass filter, as shown in Shimizu, for further processing with the resultant high and low frequencies of the particular signal. It is well-known in the art to apply a filter to the raw signal to eliminate undesired components.

Re **Claims 4 and 5**, Kuzuya discloses the gain as variable/scheduled in col 7, lines 18-19 - "proportional gain".

As best understood, re **Claims 6-12**, the patents disclose the recited elements.

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Re **Claim 13**, the patents disclose a controller for an active steering system comprising the elements described above.

As best understood, re **Claims 24 and 25**, the patents disclose the recited elements.

3B. **Claims 2, 3, 14-18, 21-23, 26 and 27** are rejected under 35 U.S.C. 103(a) as being unpatentable over Kuzuya in view of Shimizu, and in further view of Phillips 6370459.

Re **Claims 2 and 3**, the previous patents do not disclose the motor as being disposed relative to a differential, while Phillips shows this element 712/722. It would have been obvious to one with ordinary skill in the art at the time the invention was made to include this element, as shown in Phillips, to further increase the sensitivity of the steering system with respect to the desired steering angle, thus enhance its performance.

Re **Claims 14-18, 26 and 27** (14, 15 and 27 as best understood), Kuzuya discloses Feel controller, comprising element CS, vehicle stability input means 21, and steering actuator 10, but does not disclose a differential actuator.

Phillips shows

A signal output to motor 26 (col 24, lines 40-41), from which a signal is input to differential 712/722 connected to steering actuator 16. .

It would have been obvious to one with ordinary skill in the art at the time the invention was made to include a differential, as shown in Phillips, to increase the range of steering torque, thus increase the efficiency of the system to effect the desired steering angle.

As best understood, re **Claim 21**, Kuzuya in view of Shimizu discloses the recited elements.

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Re **Claim 22**, Shimizu shows bandpass filter 22 that divides the signal, as discussed above.

As best understood, re **Claim 23**, Kuzuya discloses summing section S35 in col 7, lines 23-24.

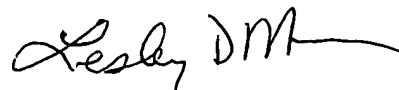
4. **Claims 19 and 20** are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

5. The prior art made of record, and not relied upon, is pertinent to the Applicant's disclosure, in addition to the art listed on the IDS filed 11/21/01: Kurishige et al 6450287, 6246197, Higashi et al 6381526, Collier-Hallman et al 6122579, Chandy et al 5704446, Kielar et al 6039143, Saito et al 4765425, Naito et al 4724917, Taig 4715462, Iwaki et al 4676331, Barthelemy 4576056.

6. Communication with the Examiner and USPTO

Any inquiry concerning this communication should be directed to Ms. Lum at (703) 305-0232, 9-530, M-F. Our fax number is (703) 308-2571. Any inquiry of a general nature, or relating to the status of this application/proceeding, should be directed to Customer Assistance at (703) 306-5771.

Ms. Lee S. Lum
Examiner
10/30/02



Lesley D. Morris
~~Primary Examiner~~
SPEAU2611